

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof; [and]

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with a surface of the electronic component, the flexible contact elements have an original shape;

the flexible contact elements [deflect away from the original shape] flex and wipe the surface of the electronic component when [said] the flexible contacts contact the electronic components; and

the flexible contact elements substantially [return to the original shape] compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component.

30. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein the electronic device is a semiconductor wafer.

32. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein the area of the electronic device is a portion of [an overall] a surface area of the electronic device.

37. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof; .

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component, and the flexible elements are [shaped] wires disposed on the surface of the second substrate, the wires are shaped so that a free end thereof laterally moves when pressed against the area of the electronic device.

38. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein there are electrical connections between the second substrates and the first substrate.

39. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein the first substrate is a space transformer.

40. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein the electronic device is a semiconductor wafer; and the flexible contact elements of the second substrate contact individual semiconductor dies on the semiconductor wafer.

41. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein the electronic device is a semiconductor wafer; and the flexible contact elements of the second substrate contacts at least one integrated circuit on the semiconductor wafer.

42. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof;

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component so that a free end of the flexible contact elements laterally move when pressed against the area of the electronic device, and the second substrate is aligned to the first substrate by a socket.

43. (Amended) A method of probing an electronic device by contacting the electronic device with a plurality of flexible contact elements, the method comprising the steps of:

providing a first substrate corresponding to an area of the electronic device to be probed, said substrate having a front surface;

mounting and connecting a second substrate to the front surface of the first substrate, said second substrate having a plurality of flexible contact elements bonded to and extending from a surface thereof;

urging the first substrate and the electronic device towards one another so that the flexible contact elements make contact with the electronic component so that a free end of the flexible contact elements laterally

move when pressed against the area of the electronic device, and the first substrate with the second substrate mounted thereto is mounted to an electrical testing apparatus.

44. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein the first substrate with the second substrate mounted thereto is mounted to an electrical testing apparatus by a plurality of electrical connections.

45. (Amended) A probe card assembly comprising:

a probe card;

a first substrate having a top surface, a bottom surface, a first plurality of terminals disposed on the top surface, and a second plurality of terminals disposed on the bottom surface;

at least one second substrate having a top surface and a bottom surface;

means for effecting electrical connections between the at least one second substrate and the first substrate; [and]

a plurality of probe elements disposed on the top surface of the at least one second substrate; and

the probe elements are free-standing flexible conductors shaped so that a free end thereof laterally moves when pressed against a surface.

49. (Amended) A structure comprising:

a plurality of first substrates adapted to be mounted to a second substrate;

each of the first substrates having two opposite surfaces;

free standing flexible conductors extending from one of the two surfaces  
shaped so that a free end thereof laterally moves when pressed against a surface;

terminals on an other of the two opposite surfaces;

means, within each of the first substrates, for connecting the terminals to the contacts; and

the plurality of the first substrates are mounted on to the second substrate.

50. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, further including plurality of groups of said plurality of the flexible electrical contact elements.

51. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein there is a least one of said second substrates mounted to said first substrate.

52. (Amended) A method according to any one of claims 33, 34, 36, 37, 42, [or] 43[,] or 53 to 60, wherein there are a plurality of said second substrates mounted to said first substrate.

53. (Amended) A method according to claim 33 where each of said plurality of flexible contact elements [have an original shape; the flexible contact elements deflect away from the original shape] flex and wipe the area of the electronic device when said flexible contacts contact the electronic device; the flexible contact element substantially

[returns to the original shape] compliantly respond when the flexible contact element are withdrawn from contacting the electronic device.

54. (Amended) A method according to claim 34 where each of said plurality of flexible contact elements [have an original shape; the flexible contact elements deflect away from the original shape] flex and wipe the area of the electronic device when said flexible contacts contact the electronic device; the flexible contact element substantially [returns to the original shape] compliantly respond when the flexible contact element are withdrawn from contacting the electronic device.

55. (Amended) A method according to claim 36 where each of said plurality of flexible contact elements [have an original shape; the flexible contact elements deflect away from the original shape] flex and wipe the area of the electronic device when said flexible contacts contact the electronic device; the flexible contact element substantially [returns to the original shape] compliantly respond when the flexible contact element are withdrawn from contacting the electronic device.

56. (Amended) A method according to claim 37 where each of said plurality of flexible contact elements [have an original shape; the flexible contact elements deflect away from the original shape] flex and wipe the area of the electronic device when said flexible contacts contact the electronic device; the flexible contact element substantially [returns to the original shape] compliantly respond when the flexible contact element are withdrawn from contacting the electronic device.

57. (Amended) A method according to claim 42 where each of said plurality of flexible contact elements [have an original shape; the flexible contact elements deflect away from the original shape] flex and wipe the area of the electronic device when said flexible contacts contact the electronic device; the flexible contact element substantially [returns to the original shape] compliantly respond when the flexible contact element are withdrawn from contacting the electronic device.

58. (Amended) A method according to claim 43 where each of said plurality of flexible contact elements [have an original shape; the flexible contact elements deflect away from the original shape] flex and wipe the area of the electronic device when said flexible contacts contact the electronic device; the flexible contact element substantially [returns to the original shape] compliantly respond when the flexible contact element are withdrawn from contacting the electronic device.

59. (Amended) A probe card according to claim 45 wherein said freestanding flexible conductors [deflect away from the original shape when said freestanding flexible conductors electronic components:] are shaped to flex and wipe the area of the electronic device, the freestanding flexible conductors substantially [return to the original shape] compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component.

60. (Amended) A probe card according to claim 49 wherein said freestanding flexible conductors [deflect away from the original shape when said freestanding flexible conductors electronic components:] are shaped to flex and wipe the area of the electronic device, the freestanding flexible conductors substantially [return to the original shape] compliantly respond when the flexible contact elements are withdrawn from contacting the electronic component.

61. (Added) A method according to any one of claims 53 to 58 wherein the flexible contact elements can be repeatably assembled and disassembled so that said flexible contact element can recontact, reflex and rewipe the area of the electronic device.

62. (Added) A structure according to any one of claims 59 to 60 wherein the flexible contact elements can be repeatably assembled and disassembled so that said flexible contact element can recontact, reflex and rewipe the area of the electronic device.